In the Claims

Cancel Claims 1-15 and add the following new claims.

-- 16. A V_H or V_L polypeptide isolated by the method comprising the steps of:

(a) synthesizing a V_H or V_L-coding gene library containing a plurality of different V_H or V_L-coding DNA sequences by a method comprising the steps of:

(i) preparing a polynucleotide containing composition, wherein at least a portion of the polynucleotide in said composition comprise a plurality of different V_H or V_L-coding sequences;

(ii) amplifying a plurality of V_H or V_L-coding sequences in said polynucleotide containing composition;

(iii) joining in operable combination V_H or V_L-coding sequences from said V_H or V_L-coding gene library into expression vectors so as to be able to express a V_H or V_L-coding sequence, whereby a diverse library is formed;

(b) selecting and isolating from said diverse library at least one expression vector capable of producing V_H or V_L polypeptides having the desired specificity;

(c) transforming a host cell with said expression vector; and

(d) isolating a V_H or V_L polypeptide encoded by said vector from said host cell.

17. A V_H or V_L polypeptide according to Claim 16, wherein said V_H or V_L polypeptide is capable of having a catalytic activity.

18. A V_H or V_L polypeptide isolated by a method comprising the steps of:

(a) preparing a polynucleotide containing composition, wherein at least a portion of the polynucleotide in said composition comprise a plurality of V_H or V_L-coding sequences;

(b) amplifying a plurality of V_H or V_L-coding sequences from said polynucleotide containing composition by a method of amplification comprising the step of adding primer sequences capable of hybridizing upstream and downstream from a plurality of said V_H or V_L-coding sequences under conditions permitting hybridization to occur, whereby a plurality of amplified V_H or V_L-coding sequences are produced;

(c) joining in operable combination, V_H or V_L-coding sequences from said V_H or V_L-coding gene library with an expression vector so as to be able to express a V_H or V_L-coding sequence from each vector, whereby a diverse library is formed;

(d) selecting from said diverse library at least one expression vector capable of

producing a V_H or V_L polypeptide having a desired specificity;

(e) transforming a host cell with said expression vector; and

(f) isolating a V_H or V_L polypeptide encoded by said vector from said host cell.

19. A V_H or V_L polypeptide according to Claim 18, wherein said V_H or V_L polypeptide is capable of having a catalytic activity.

20. A V_H or V_L polypeptide isolated by the method comprising the steps of:

(a) producing V_H or V_L-coding genetic library, by a method comprising the steps of:

(i) adding a first primer, wherein said first primer is capable of hybridizing to a first conserved nucleotide sequence substantially adjacent to a plurality of V_H or V_L coding regions, and said coding sequences are present in a polynucleotide containing composition that comprises a plurality of different V_H or V_L-coding sequences;

(ii) adding a second primer to said nucleotide containing composition, wherein said second primer is capable of hybridizing to a second conserved nucleotide sequence substantially adjacent to a plurality of V_H or V_L coding regions and said second conserved nucleotide sequence;

(b) joining in operable combination, V_H or V_L-coding sequences from said V_H or V_L-coding gene library with expression vectors so as to be able to express a V_H or V_L-coding sequence from each vector, whereby a diverse library is formed;

(c) selecting and isolating from said diverse library at least one expression vector capable of producing V_H or V_L polypeptides having the desired specificity;

(d) transforming a host cell with said expression vector; and

(e) isolating a V_H or V_L polypeptide encoded by said vector from said host cell.

21. A V_H or V_L polypeptide according to Claim 20, wherein said V_H or V_L polypeptide is capable of having a catalytic activity.

REMARKS

The above amendments to the claims are made for the purpose of more clearly defining what Applicants regard as the invention. New Claims 16-21 correspond to Claims 26, 27, 40, 41, 52 and 53 submitted in the Preliminary Amendment dated March 31, 1993 in